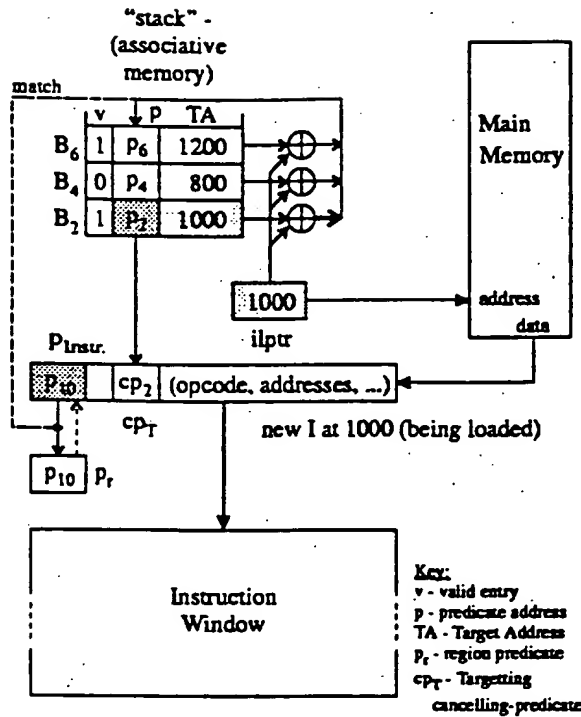


FIG. 1



Snapshot taken at t = 9+ of Example 5.
- new I matches target address in stack

FIG. 2

load time	address	code		stack			predicate-assignment (at load time)					predicate-use (at code execution time)				
				B	v	p	TA	$P_{in}=P_r$	cp_{in}	P_{out}	cp_{out}	P_i - condition for I execution				
1	100	I_1	$z = x \text{ op } y$													
							empty	1	0	$p_1=1$	-			1		
2	200	B_2	if (bc_2) goto 400	B_2	1	P_2	400	1	0	$p_2=\overline{bc}_2$	bc_2			1		
3	300	I_3		B_2	1	P_2	400	P_2	0	-	-	-		\overline{bc}_2		
4	400	I_4						empty	P_2	cp_2	\overline{bc}_2+bc_2	-		$\overline{bc}_2+bc_2=1$		
5	500	I_5					empty	P_4	0	-	-		$p_4=1$			
6	600	B_6	if (bc_6) goto 800	B_6	1	P_6	800	P_4	0	$\overline{bc}_6 \cdot P_4$	$bc_6 \cdot P_4$			1		
7	700	I_7		B_6	1	P_6	800	P_6	0	-	-	-		\overline{bc}_6		
8	800	I_8						empty	P_6	cp_6	\overline{bc}_6+bc_6	-		$\overline{bc}_6+bc_6=1$		
9	900	I_9					empty	P_8	0	-	-		$p_8=1$			

Equations - for "T": $P_i=P_{out}=P_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc} \cdot p_{in}$, $cp_{out}=bc \cdot p_{in}$

Equations - for "T": $p_i = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \overline{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 3

100-110-120-130-140-150-160-170-180-190-200-210-220-230-240-250-260-270-280-290-300-310-320-330-340-350-360-370-380-390-400-410-420-430-440-450-460-470-480-490-500-510-520-530-540-550-560-570-580-590-600-610-620-630-640-650-660-670-680-690-700-710-720-730-740-750-760-770-780-790-800-810-820-830-840-850-860-870-880-890-900-910-920-930-940-950-960-970-980-990-1000

load time	address	code		predicate-assignment (at load time)				predicate-use (at code execution time)				
				stack				$p_{in}=p_r$	cp_{in}	p_{out}	cp_{out}	p_i - condition for I execution
				B	v	p	TA					
1	100	I ₁	z = x op y				empty	1	0	$p_1=1$	-	1
2	200	B ₂	if (bc ₂) goto 800	B ₂	1	P ₂	800	1	0	$p_2=\overline{bc_2}$	bc_2	1
3	300	I ₃		B ₂	1	P ₂	800	P ₂	0	-	-	$\overline{bc_2}$
4	400	B ₄	if (bc ₄) goto 600	B ₄	1	P ₄	600	P ₂	0	$\overline{bc_4} \cdot P_2$	$bc_4 \cdot P_2$	1
				B ₂	1	P ₂	800					
5	500	I ₅		B ₄	1	P ₄	600	P ₄	0	-	-	$\overline{bc_2} \cdot \overline{bc_4}$
				B ₂	1	P ₂	800					
6	600	I ₆		B ₂	1	P ₂	800	P ₄	cp ₄	p_4+cp_4	-	$\overline{bc_4} \cdot \overline{bc_2} + bc_4 \cdot \overline{bc_2} = \overline{bc_2}$
7	700	I ₇		B ₂	1	P ₂	800	P ₆	0	-	-	$\overline{bc_2}$
8	800	I ₈					empty	P ₆	cp ₂	p_6+cp_2	-	$\overline{bc_2} + bc_2 = 1$
9	900	I ₉					empty	P ₈	0	-	-	1

Equations - for "T": $p_i = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \overline{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 4

load time	address	code		predicate-assignment (at load time)		predicate-use (at code execution time)				
				stack		$p_{in}=p_r$	cp_{in}	p_{out}	cp_{out}	p_i - condition for I execution
1	100	I_1	$z = x \text{ op } y$	B	v p TA empty	1	0	$p_1=1$	-	1
2	200	B_2	if (bc_2) goto 600	B_2	1 p_2 600	1	0	$p_2=\overline{bc_2}$	bc_2	1
3	300	I_3		B_2	1 p_2 600	p_2	0	-	-	$\overline{bc_2}$
4	400	B_4	if (bc_4) goto 800	B_4	1 p_4 800	p_2	0	$\overline{bc_4} \cdot p_2$	$bc_4 \cdot p_2$	1
				B_2	1 p_2 600					
5	500	I_5		B_4	1 p_4 800	p_4	0	-	-	$\overline{bc_4} \cdot \overline{bc_2}$
				B_2	1 p_2 600					
6	600	I_6		B_4	1 p_4 800	p_4	cp_2	p_4+cp_2	-	$(\overline{bc_4} \cdot \overline{bc_2})+bc_2=\overline{bc_4}+bc_2$
				B_2	0 p_2 600					
7	700	I_7		B_4	1 p_4 800	p_6	0	-	-	$\overline{bc_4}+bc_2$
				B_2	0 p_2 600					
8	800	I_8			empty	p_6	cp_4	p_6+cp_4	-	$\overline{bc_4}+bc_2+(bc_4 \cdot \overline{bc_2})=1$
9	900	I_9			empty	p_8	0	-	-	1

Equations - for "T": $p_i=p_{out}=p_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc} \cdot p_{in}$, $cp_{out}=bc \cdot p_{in}$

FIG. 5

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load time	address	code		predicate-assignment (at load time)		predicate-use (at code execution time)				
				stack		$p_{in}=p_i$	cp_{in}	p_{out}	cp_{out}	p_i - condition for I execution
1	100	I ₁	z = x op y	B	v p TA empty	1	0	$p_1=1$	-	1
2	200	B ₂	if (bc ₂) goto 1000	B ₂	1 P ₂ 1000	1	0	$p_2=\overline{bc_2}$	bc ₂	1
3	300	I ₃		B ₂	1 P ₂ 1000	P ₂	0	-	-	$\overline{bc_2}$
4	400	B ₄	if (bc ₄) goto 800	B ₄ B ₂	1 P ₄ 800 1 P ₂ 1000	P ₂	0	$\overline{bc_4} \cdot p_2$	bc ₄ · P ₂	1
5	500	I ₅		B ₄ B ₂	1 P ₄ 800 1 P ₂ 1000	P ₄	0	-	-	$\overline{bc_4} \cdot \overline{bc_2}$
6	600	B ₆	if (bc ₆) goto 1200	B ₆ B ₄ B ₂	1 P ₆ 1200 1 P ₄ 800 1 P ₂ 1000	P ₄	0	$\overline{bc_6} \cdot p_4$	bc ₆ · P ₄	1
7	700	I ₇		B ₆ B ₄ B ₂	1 P ₆ 1200 1 P ₄ 800 1 P ₂ 1000	P ₆	0	-	-	$\overline{bc_6} \cdot \overline{bc_4} \cdot \overline{bc_2}$
8	800	I ₈		B ₆ B ₄ B ₂	1 P ₆ 1200 0 P ₄ 800 1 P ₂ 1000	P ₆	cp ₄	p_6+cp_4	-	$(\overline{bc_6} \cdot \overline{bc_4} \cdot \overline{bc_2}) + (bc_4 \cdot \overline{bc_2})$ $= (\overline{bc_6} + bc_4) \overline{bc_2}$
9	900	I ₉		B ₆ B ₄ B ₂	1 P ₆ 1200 0 P ₄ 800 1 P ₂ 1000	P ₈	0	-	-	$(\overline{bc_6} + bc_4) \overline{bc_2}$
10	1000	I ₁₀		B ₆	1 P ₆ 1200	P ₈	cp ₂	p_8+cp_2	-	$((\overline{bc_6} + bc_4) \overline{bc_2}) + bc_2$ $= \overline{bc_6} + bc_4 + bc_2$
11	1100	I ₁₁		B ₆	1 P ₆ 1200	P ₁₀	0	-	-	$\overline{bc_6} + bc_4 + bc_2$
12	1200	I ₁₂			empty	P ₁₀	cp ₆	$p_{10}+cp_6$	-	$\overline{bc_6} + bc_4 + bc_2 + (bc_6 \cdot \overline{bc_4} \cdot \overline{bc_2})$ $= 1$
13	1300	I ₁₃			empty	P ₁₂	0	-	-	1

Equations - for "T": $p_i = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \overline{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 6